MACH 5

306 Engineering Unit C

University Park, PA 16802

Dr. Chris Magent

AE 472 Professor

107 Wartik

University Park, PA 16802

Dr. Magent:

In response to your request for information, MACH 5 has prepared the following proposal letter that will describe our abilities to construct the new Material and Life Sciences Building II.  This letter will cover MACH 5's description of what work will be completed, the fee to be charged for such services, and contents of a future proposal.

The Material and Life Sciences Building II will provide 258,735 sq ft of research and office space.  Previous clients have found our unique approach to planning and managing the construction with the utilization of Building Information Modeling (BIM) to be a seamless transition from the construction documents to the physical building.  MACH 5’s extensive experience with BIM has enabled us to consistently construct successful projects by developing accurate budgets, realistic schedules, and seamless trade coordination. Not only is BIM a useful tool for the management of the construction process, but it will also allow you the best means of experiencing your building virtually through 3-D visualization. Clients greatly appreciate being able to visualize their finished project before its actual completion and the ability for changes to be made without drastic financial impact. Furthermore, as a facilities manager of the building, the information from our BIM database can be used for maintenance and repairs throughout the life.

The personnel for the project management team will consist of Ralph Kreider, Charles Miller, Carmen Brutico, Maria Piergallini, and Michael Webb.  This exclusive team has been working closely together on several multi-million dollar projects solidifying the group’s synergy. These projects have primarily focused on academic research buildings requiring extensive MEP coordination and campus considerations, such as noise levels during class periods and student safety.  Ralph Kreider, Executive Principal, has received numerous awards from Autodesk for his work and advancement of Revit Applications.  Mr. Kreider heads the MACH 5 Building Information Modeling Department as well as MEP coordination. Mr. Kreider received his Doctorate from The Pennsylvania State University with his research focusing on BIM Interoperability. He has taken the lead on transitioning the architect’s construction documents into a BIM model.  This model includes site work, structural systems, and MEP design.  The substantial benefits will be detailed in the future proposal.  Charles Miller, Executive Vice-President, is in charge of the scheduling department.  Before joining our team, Mr. Miller had many years of experience as a scheduling consultant.  At MACH 5, Mr. Miller has become an experienced BIM modeler and performs as an assistant to Mr. Kreider. Carmen Brutico has eight years of construction experience as one of our superintendents. Along with managing and coordinating site conditions, Mr. Brutico oversees the constructability reviews of the BIM model.  His first hand experience and construction knowledge will be an exceptional asset to a building's construction.  Maria Piergallini takes care of all marketing and public relations as well as managing our safety department. Prior to working at MACH 5, Ms. Piergallini ran her own safety consultant firm to assist smaller companies with hazard analysis.  As part of the MACH 5 team, Ms. Piergallini will serve as a steward of safety to assure public convenience and safety.  The final member of the MACH 5 team is Michael Webb.  Mr. Webb served as a Naval Aviator for five years before bringing his leadership and management skills to MACH 5. Prior to his military service, Mr. Webb focused his undergraduate studies in the development and streamlining of Green Building processes and LEED certification. Combined with the invaluable experience from his time in the Navy, Mr. Webb heads up the LEED Certification Department and handles site planning for the efficient managing of recycling and waste. In addition to ensuring that all possible LEED points are achieved on MACH 5 projects, Mr. Webb assists Mr. Miller and Mr. Brutico with scheduling and estimating respectively.

The Material and Life Sciences II building will be constructed on the University Park campus of The Pennsylvania State University.  Currently, the site of the building contains several athletic facilities including a soccer field, tennis courts and roller rinks.  Adjacent buildings include Thomas, Life Sciences, Health and Human Services, and the Eisenhower parking garage.  These buildings do not pose any risk to the construction of the Material and Life Sciences Building II.  Nevertheless, the site is at the heart of a pedestrian campus where students will frequently pass extremely close to our site. MACH 5 has taken this into consideration and will address the issue in more detail following the initial submittal of this letter.

The preconstruction phase of this project has already begun and we are prepared to present our results in the future proposal. We expect to break ground on October 1, 2008, top out on March 24, 2009, and reach full enclosure by August 17, 2009. This will ensure comfortable interior work conditions during the winter months allowing for substantial completion of this project by August 1, 2010.

The long term viability of this project makes Material and Life Sciences Building II a necessary and welcomed addition the University Park Campus. After its construction, this project will house fully functioning research laboratories which are vital for the advancements of Penn State’s primer programs of Piezoelectric, Dielectrics and Bio-photons.

MACH 5 looks forward to the opportunity to present our preconstruction service proposal to showcase our ability to utilize BIM in preconstruction to streamline the construction process.

Please feel free to contact Ralph Kreider for any questions or comments that you may have by calling 717-475-0181 or sending an email to rgk5000@psu.edu.

Sincerely MACH 5,

Ralph Kreider Charles Miller Maria Piergallini

Ralph Kreider Charles Miller Maria Piergallini

**Carmen Brutico** *Michael Webb* April 15th, 2008

Carmen Brutico Michael Webb

**I. Introduction**

A. Cover with team name, member names, and project title

B. Proposal letter

C. Table of contents

D. Organization Chart and Resumes

**II. Site Investigation Submission**

A. Introduction

B. Building Geometry and Project background

C. Value Engineering / Cost Savings Ideas Processes

**III. Estimate Submission**

A. Estimate summary

B. GC and Structural systems Estimate

**IV. Schedule Submission**

A. Summary bar chart

B. Detailed CPM schedule

C. Cash flow projection, Payment schedule

**V. Construction Planning Submission**

A. Introduction / description of key issues

B. Site plans, material handling, recycling, and waste removal plans

C. Construction sequence plan / Narrative

D. Project-specific hazard analysis and safety plan



CONSTRUCTION

EXPERIENCE

**Pennsylvania State University**

**College of Engineering Signature Building**

University Park, PA

Senior Project Manager, MEP Coordinator

**Hershey Medical Center Cancer Institute**

Hershey, PA

Senior Project Manager, MEP Coordinator

**Children’s Hospital of Pennsylvania**

**3535 Market Street, 11th Floor Renovation**

Philadelphia, Pennsylvania

Senior Project Manager, MEP Coordinator

**University of Pennsylvania Weightman Hall at Franklin Field Sports Medicine Facility**

Philadelphia, Pennsylvania

Senior Project Manager, MEP Coordinator

**Lafayette College**

**Allan P. Kirby Sports center**

Easton, Pennsylvania

Senior Project Manager, MEP Coordinator

**Ralph Kreider, P.E.**

Executive Principal, Head Building Information Modeling Department & MEP Coordination Supervisor

**Ralph Kreider** brings many years of comprehensive construction expertise to every project. He has extensive experience in constructing major projects from inception to completion. This allows him to provide an integrated perspective on each phase,

from bidding to construction operations, and most significantly, on conflict resolution through the

use of Building Information Modeling (BIM).

Mr. Kreider is a registered professional engineer.

After receiving his B.A.E and M.A.E in Architectural Engineering from The Pennsylvania State University, he went on to add his P.h.D in construction management with a focus in BIM. In his early career, he handled the oversight of mechanical construction work.

As he was promoted to senior project manager, assistant vice president, and finally, executive

principal, he acquired special expertise in the areas

of management skills, delay analysis, and MEP coordination.

Utilizing the combination of management skills, building construction experience and BIM expertise Mr. Kreider has been successful throughout his career at MACH5 in bringing to closure all issues on his construction projects.



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EXPERIENCE

**Pennsylvania State University**

**College of Engineering Signature Building**

University Park, PA

Project Manager

**Children’s Hospital of Pennsylvania**

**3535 Market Street, 11th Floor Renovation**

Philadelphia, Pennsylvania

Project Manager

**University of Pennsylvania Weightman Hall at Franklin Field Sports Medicine Facility**

Philadelphia, Pennsylvania

Project Manager

**Lafayette College**

**Allan P. Kirby Sports center**

Easton, Pennsylvania

Project Manager

**Smithsonian Renovation**

Washington, DC

Scheduling Consultant

**Charles Miller, P.E.**

Executive Vice-President, Assistant BIM Modeler & Senior Scheduling Manager

Charles Miller has an inside knowledge of construction from the perspective of both the U.S. government and private industry. Serving as Project Manager on several multimillion dollar projects he has expert knowledge of each project phase which gives him an informed viewpoint on all construction operation. Mr. Miller has used several modeling software giving him experience with both conceptual and final design modeling.

After receiving his Bachelors and Masters in Architectural Engineering from The Pennsylvania State University, Mr. Miller began his career in the MACH5 scheduling department. After working for several years, he became a registered professional engineer. Once he learned the basics of scheduling, he moved up the ranks of project management until he attained the position of executive vice president.

Mr. Miller is always ahead of his time; he began using critical path method (CPM) scheduling long before it was accepted in the industry, and was instrumental in making it a standard for MACH5 projects. Today, Mr. Miller is a pioneer in short interval production scheduling (SIPS), adding to MACH5’s competitive advantage when scheduling and bidding a project.



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EXPERIENCE

**Pennsylvania State University**

**College of Engineering Signature Building**

University Park, PA

Assistant Project Manager, Safety Coordinator

**Hershey Medical Center Cancer Institute**

Hershey, PA

Assistant Project Manager, Safety Coordinator

**Children’s Hospital of Pennsylvania**

**3535 Market Street, 11th Floor Renovation**

Philadelphia, Pennsylvania

Assistant Project Manager, Safety Coordinator

**University of Pennsylvania Weightman Hall at Franklin Field Sports Medicine Facility**

Philadelphia, Pennsylvania

Assistant Project Manager, Safety Coordinator

**Maria Piergallini**

Marketing and Public Relations

Project Safety Coordinator

Education:

Professional Engineer

Focused in Arch Eng

Masters of Architectural Eng/BAE

The Penn State University

Qualifications:

* Projects Executive on the award winning College of Engineering Signature Building on Penn State University Campus
* Schedule Consultant for Supreme Court Renovation, Smithsonian Renovation, Dickinson School of Law, Long and Foster Headquarters, and Langley Air Force Base
* Material Engineer for Calvary Baptist’s new sanctuary
* Project Executive PSU Learning Factory Addition
* 3D- Modeler for Vibrant Meadows Elderly Apartment Complex
* 3D-Modeler for Morning Star initial design



CONSTRUCTION

EXPERIENCE

**Pennsylvania State University**

**College of Engineering Signature Building**

University Park, PA

Superintendent, Estimator

**Hershey Medical Center Cancer Institute**

Hershey, PA

Superintendent, Estimator

**Children’s Hospital of Pennsylvania**

**3535 Market Street, 11th Floor Renovation**

Philadelphia, Pennsylvania

Superintendent, Estimator

**University of Pennsylvania Weightman Hall at Franklin Field Sports Medicine Facility**

Philadelphia, Pennsylvania

Superintendent, Estimator

**Carmen Brutico**

Superintendent, General Conditions Estimator & Interior Sequence Coordinator

Education:

Professional Engineer

Focused in Architectural Engineering

Masters of Architectural Eng/BAE

The Penn State University

Carmen Brutico brings over five years of field experience to his projects which allows him visualize constructability problems and improve the overall construction process. His field background gives him key knowledge to manage the workforce at all levels while integrating innovative productivity solutions to give both the crews and the client satisfaction. Mr. Brutico is a high-energy team member who continually advances the group dynamics, inspiring employees to the highest possible performance. With comprehensive knowledge of the construction industry, he helps organize the company for



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EXPERIENCE

**Pennsylvania State University**

**College of Engineering Signature Building**

University Park, PA

Assistant Project Manager

**Hershey Medical Center Cancer Institute**

Hershey, PA

Assistant Project Manager

**Children’s Hospital of Pennsylvania**

**3535 Market Street, 11th Floor Renovation**

Philadelphia, Pennsylvania

Assistant Project Manager

**University of Pennsylvania Weightman Hall at Franklin Field Sports Medicine Facility**

Philadelphia, Pennsylvania

Assistant Project Manager

**Michael Webb**

LEED Certification Manager, Assistant Estimator & Assistant Scheduler

Education:

Professional Engineer

Focused in Arch Eng

Bachelor of Architectural Engineering  
w/ Military Studies Minor

The Penn State University

Michael Webb has extensive leadership and management experience through his work experience with the US Government and Department of Defense. After serving as Co-Project Manager for several smaller scale residential projects, Michael encountered significant development in his own sense of wisdom and management skills, empowering him to inspire anyone in their field of work. Michael comes to MACH 5 bringing a strong sense of camaraderie and espirit de corps.